Scientific method: logical representation vis à vis dialectical reproduction (i.e., the consciousness dominated by alienation for believing itself an abstractly free one vis à vis the consciousness that advances in its freedom by being aware of its alienation)[*]

Juan Iñigo-Carrera
Centro para la Investigación como Crítica Práctica - Argentina

The point is to change it

'The philosophers have done nothing but to *interpret* the world in various ways; the point is to *change* it.' (Marx, Karl, XI Thesis on Feuerbach)

Marxists unanimously assume that the problem with philosophers is not that they interpret the world, but that they do not take action once they have achieved this interpretation. Moreover, Marxism has always postulated that the point is to scientifically interpret the world to face, on the basis of that interpretation, its conscious transformation. Still, is it the point? Should *interpretation* be taken as the natural form of scientific knowledge? What change are we talking about?

Free consciousness as the form of alienated consciousness[1]

The capitalist mode of organizing social production, and therefore of organizing the process of social metabolism, starts from the dissolution of the relations of personal dependency. It is about a society of free individuals, within which social labor is performed in a private way. This means that the free consciousness in charge of organizing each unit of social labor lacks the capacity to control its own social powers. These powers face that consciousness inverted as the social powers imposed on it by its product -capital- which embodies the capacity to automatically give way to the general organization of social labor bearing its self-multiplication as immediate aim. Therefore, free consciousness is determined as the necessary personification of that alien social power, that belongs to its product and to which it is submitted. That is to say, within the capitalist mode of production, free consciousness is the form of the consciousness alienated in capital.

Through the production of relative surplus value, the process of capital accumulation, i.e. the progressive socialization of private labor, is the mode of organizing social life within which social labor is constantly driven to develop the capacity to consciously control its own organization while, at the same time, it pursues as its immediate aim the multiplication of the capacity to automatically organize social life beyond the consciousness of its producers.

The absolute limit to the capitalist development of the productive forces of society lies in this negation of the complete domination of the very powers of social labor. Therefore, the ultimate capitalist barrier to the development of productive forces lies in the mutilation

[*] This presentation summarizes chapter 7 "The dialectic method. A critique of scientific theory" of my book *El capital: razón histórica, sujeto revolucionario y conciencia*, Ediciones Cooperativas, Buenos Aires, 2003 as well as the developments on consciousness included in my book *Conocer el capital hoy - Usar críticamente «El Capital», Volumen 1, La mercancía, o la conciencia libre como forma de la conciencia enajenada*, Imago Mundi, Buenos Aires, 2007.

[1] See my presentation 'The historical determination of the capitalist mode of production and of the working class as the revolutionary subject, vis à vis the current fragmentation of the workers' productive subjectivity' for the Economy Section of this Congress.

imposed on free consciousness by its determination as the form of existence of alienated consciousness. The overcoming of this barrier necessarily entails the annihilation of private labor as the way of organizing social labor, thus giving birth to the general conscious organization of the latter. In other words, to change the world means to transform human freedom from consisting in not being subject to the personal domination by another at the expense of submitting to domination by the social powers that belong to the product of one's own labor, to consist in not submitting to the personal domination of another, because one holds complete objective sway over one's individual labor as an organ of social labor.

The consciousness of the working class as the negation of the negation of free consciousness

The need inherent within the capitalist mode of production to develop itself towards its own overcoming into the general conscious organization of social production immediately presents us with the process of the development of consciousness. A consciousness able to organize the totality of the process of social production must have attained the power inherent in the fullness of objective knowledge, that is, it needs to be a completely free consciousness. Nevertheless, it can not reach this condition as an offspring of the previous overcoming of the capitalist mode of production. On the contrary, this overcoming is the offspring of the complete development of free consciousness. Therefore, complete free consciousness must necessarily be the most genuine product of the capitalist mode of production itself. More concretely yet, it must needs be the product of the social subject that the capitalist mode of production objectively determines as the bearer of its own overcoming, resulting from the same process in which the subject undertakes this overcoming. In a nutshell, the consciousness in question can only be developed as the product of the political action of the working class in the process of overcoming the capitalist mode of production. This action takes, as its necessary concrete form, the advance in the socialization of private labor by means of the centralization of capital as an alienated social property, which is to say, as property of the state. The consciousness of the working class able to overcome the capitalist mode of production can only be developed as a concrete necessary moment of the aforementioned process of capital centralization.

Yet, the consciousness of the working class is determined as an attribute of capital and, therefore, as a form of alienated consciousness. Above all, the free consciousness of the working class is the necessary concrete form of its alienated consciousness. Hence, it is the negation of free consciousness under the appearance of being a free consciousness. Therefore, the consciousness that bears the overcoming of the capitalist mode of production cannot be developed as the abstract affirmation of the free consciousness of the working class. It can only be developed as the free consciousness of the working class that determines itself as an alienated consciousness advancing in the denial of its own alienation. That is, as a consciousness whose freedom resides in determining itself as the negation of the negation of free consciousness.

The science of capital as a pure form of the production of relative surplus value, i.e., the theoretical representation

Capital's needs concerning scientific cognition face a contradiction. To increase relative surplus value by means of the system of machinery, capital is compelled to submit all production and consumption to science. Nevertheless, insofar as scientific cognition is simply

a concrete form of the production of surplus value, science must reproduce the alienation of human consciousness in capital. At the same time it has to be an objective consciousness, it needs to be a consciousness that looks upon itself in a non-objective way by accepting the appearance of being an abstractly free consciousness. For this reason, it is about a science that needs to appear as if the foundations of its objectivity were rooted outside itself This foundation must appear to arise from a pure abstractly free subjectivity, as if it were based on philosophy[2], and more specifically, on a philosophy based on the appearance of free individuality inherent in the circulation of commodities.[3]

Scientific theory, namely logical representation, is this contradiction resolved. Scientific theory represents real concatenations by taking the forms where the necessity has been already realized needs have already been fulfilled -which is to say, the concrete forms- as if they were not, at the same time, forms that carry within themselves a necessity to be realized -which is to say, abstract forms. It thus defines real forms as unable to move by themselves. From this point of view, they can only be linked by an external relationship. It is here that logic comes into play.

Placed as incapable of moving by themselves, real forms are represented as forms that affirm themselves through the appearance of being abstract immediate affirmations. Consequently, consciousness could be affirmed as a free one or it could be affirmed as an alienated one. However, it is logically impossible for alienated consciousness to affirm itself through its own negation under the concrete form of free consciousness.

In fact, the appearance of being an immediate abstract affirmation corresponds to the actual quantitative determination considered in itself. Scientific theory subscribes to the logic that is genuinely necessary for mathematical cognition and represents it as the objective necessity that relates qualitatively the abstract immediate affirmations to which all real forms have been previously reduced. Mathematical logic is thus represented as formal logic. Based on this premise, scientific theory represents the real abstract determinations by the relationships of measure between their concrete forms. This representation allows the subject to govern actions upon real forms consciously: although the real necessity at stake is not truly known, it is nevertheless possible to act upon the magnitude of the real forms, thus transforming their quantity until this corresponds to that of a qualitatively different form. Its quality itself has thus been transformed.[4]

In turn, materialist dialectical logic takes the same abstract immediate affirmation as the simplest form of real existence.[5] Its only difference is that it represents each of these affirmations as being necessarily united with another one of the same kind which appears as opposed to the former. Thus, the consciousness of the workers is represented as the unity of their free consciousness, on the one hand, and of their alienated consciousness on the other, within the constant struggle between them. Nevertheless, these poles are clearly mutually exclusive. The fact that their free consciousness is the concrete form of their alienated consciousness remains logically inadmissible.

Scientific method as ideology

[2] Hempel, Carl, *La explicación científica: estudios sobre la filosofía de la ciencia*, Paidós, Barcelona, 1996, p. 220.

[3] Popper, Karl, "La lógica de las ciencias sociales", in Popper, K, T. Adorno, R. Dahendorf, J. Habermas, *La lógica de las ciencias sociales*, Grijalbo, México, 1978, p. 18.

[4] Hegel, G. W. F., *Ciencia de la lógica*, Solar/Hachette, Buenos Aires, 1976, pp. 291-293.

[5] Joja, Athanase, *La Lógica Dialéctica y las Ciencias*, Juárez Editor, Buenos Aires, 1969, p. 154.

Scientific theory revolutionizes once and again human control on natural forces, based on transforming quantitative differences into qualitative differences with objective knowledge. Its development seems to have no limit other than the conscious control over all the processes that concern human life. Therefore, scientific theory would appear to be the necessary form taken by the conscious organization of the human process of social metabolism. Yet, scientific theory itself has already discovered that this is like trying to walk through quicksand.

As its initial premise is to represent real concrete forms as abstract immediate affirmations, the real necessity that determines them can only go into logical representation by being reduced to the greater or lesser degree that the repetition of the existence of the real concrete form in question could present.[6] Therefore, however the hypothetically postulated determination has been verified by comparing the foreseen results with the real ones in all the cases of similar appearance taken into consideration, this fact does not allow one to be logically certain about the unavoidable extension of the regularity to the singular case now faced, whose realization still remains pending. Therefore, theories cannot be verified previously to the action based on them. Scientific theory seeks for the solution to this impasse by turning the problem upside down: although theories cannot be verified, at least their potential falsity can be proved. Nevertheless, even the certainty about the falsity of a theory dos not solve the problem of having acquired effective knowledge on the actual determination.

Hence, scientific theory itself arrives at a logically unavoidable conclusion: given the external nature of logical representation with respect to the real needs that we aim to appropriate in thought, it is impossible to be certain about an objective knowledge before acting.[7]

The theoretical stream that directly flows from modern Positivism accepts these limitations to the scope of scientific theory -that arise from the externality of the logical necessity with respect to the real necessity that is represented- beyond any doubt. It starts with Popper's self-complacent whining about 'rationally criticizing' what cannot be 'rationally justified nor proved' to have any real content,[8] goes on with Feyerabend's degraded 'everything goes,'[9] and ends up with Rorty's open contentment with his 'objective truth' not for its correspondence with reality but because 'the widest possible intersubjective agreement' has been achieved.[10] Thus, objective scientific truth becomes any assertion that the community of scientists solidarily declares to be such. Why this privilege? Because, it is said, inasmuch as scientists pursue no interest other than knowledge itself, they are the most pure expression of free human subjectivity. Of course, free consciousness is not an abstract natural attribute but the historic specific social relation in which the consciousness alienated as an attribute of capital takes shape.

What alternatives offers us the Marxist theoretical stream, that is to say, the one whose critical position is grounded in taking Marx's texts as the model for logical representation? To begin with, we find the critical scientific theory that counts on overcoming the impotence of theory to reach the certainty concerning its truth thanks to the presumed superior self-consistency of its dialectical logic: while formal logic can only represent the results of determination in general, dialectical logic represents this determination in itself. How does

[6] Hempel, Carl, op. cit., pp. 233 y 255.

[7] Popper, Karl, op. cit., p. 27.

[8] Popper, Karl, "La lógica de las ciencias sociales" en Popper, Adorno, Dahrendorf, Habermas, *La lógica de las ciencias sociales*, Grijalbo, México, 1978.

[9] Feyerabend, Paul, *Tratado contra el método*, Madrid: Tecnos, 1981.

[10] Rorty, Richard, "Solidarity or Objectivity," *Objectivity, Relativism, and Truth*, Cambridge University Press, Cambridge, 1991.

Marxist theory know this? Because it considers the form in which determination manifests itself once and again as the unity of two opposite elements[11]. Or because it thus acquires a greater range in its 'explanatory power,' in its ability to demonstrate the necessity of the observed phenomena[12]. Nevertheless, in the first place, the self-consistency of logic is unable to add more content of reality to the theoretical hypothesis, other than that of being the formal product of a constructive course developed with a greater or lesser self-consistency. In the second place, not even a step has been given here towards the nature of the general real necessity, beyond its appearance of an abstract repetition. Or, even worst, the certainty concerning the content of reality of a theory is declared possible not by demonstrating the theoretical necessity in reality, but the necessity of reality through logic.

As a second option, Marxist scientific theory accepts that verifying its results is only possible as the foresight of main tendencies[13]. Still, it happens that these tendencies have no way of realizing themselves other than through concrete human action. And the action that realizes a tendency can appear as its very negation, inasmuch as the inverse relation may be possible. Let us recall that, 'all science would be superfluous if the form of appearance and the essence of things immediately coincided.'[14] Thus, the nebulous field that goes from the tendencies that are presumably known to the necessity of the concrete action that realizes them, is consecrated as the kingdom of opportunism, by the critical scientific theory itself.

Marxist critical theory seeks for the solution inside the theoretical procedure itself. It tries to solve the question of the certainty concerning the reality of theories through the immanent critique of theoretical developments.[15] Still, to be such, this immanent critique must follow the logical necessity even more rigorously than the criticized development. Therefore, deep as it may go into a theory, this immanent critique has no way of overcoming the externality of the logical necessity with respect to the real necessity.

Marxist theory does not know if its own impotency must horrify or fascinate it. In both cases it goes on by considering itself free from the hopeless problem of verification. In the first case, because it has decided that its truth criteria reside in its moral foundations, in the elevated aims that guide it.[16] That is to say, it presents itself necessarily constructed on the basis of a philosophy. We come thus face to face with the ideological negation of scientific cognition, i.e., philosophy, placed as the necessary departing point of the scientific cognition of reality. In the second case, this scientific theory directly declares any question concerning the truth or falsity of a theory to be meaningless. It starts by resolving that scientific cognition only deals with the mental forms through which it represents reality, but not with the real forms themselves. Hence, it declares eliminated by nature the necessity to confront the reality of the theoretical construction. From here on, it believes enough with declaring itself the working class' revolutionary doctrine, to sustain its cognitive superiority.[17] Thus, it can only

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[11] Joja, Athanase *La Lógica Dialéctica y las Ciencias* Buenos Aires: Juárez Editor, 1969. Lefevre, Henri *Logique formelle, logique dialectique* Paris: Editions Anthropos, 1969.

[12] Bhaskar, Roy *Reclaiming Reality* London: Verso, 1989. Parekh, Bhikhu *Marx's Theory of Ideology* Baltimore: The Johns Hopkins University Press, 1982. Smith, Tony *The Logic of Marx's Capital* Albany: State University of New York Press, 1990.

[13] Bhaskar, Roy *Reclaiming ..., op. cit.*.

[14] Marx, Karl *Das Kapital*, Vol. III, Frankfurt: Ullstein Verlag, 1980.

[15] Adorno, Theodor *Negative Dialectics* London: Routledge & Kegan Paul, 1973. Gunn, Richard 'In Defense of a Consensus Theory of Truth', *Common Sense*, 7, 1989.

[16] Gramsci, Antonio *Quaderni del Carcere I-IV* Torino: Einaudi, 1975. Habermas, Jürgen 'Teoría analítica de la ciencia y la dialéctica' *La Lógica de las Ciencias Sociales* México: Grijalbo, 1978. Kolakowski, Leszek 'Karl Marx and the Classical Definition of Truth', *Marxism and Beyond* London: Pall Mall, 1969. Korsch, Karl *Marxism and Philosophy* London: New Left, 1970. Murray, Patrick *Marx's Theory of Scientific Knowledge* New Jersey: Humanities Press, 1988.

[17] Althusser, Louis 'The object of *Capital*' in *Reading 'Capital'* edited by L. Althusser and E. Balibar, London: New Left, 1970.

end up by concluding that all which matters concerning a scientific theory is its usefulness towards promoting action.[18] What does not have to matter in the least to accept this complete emptying of scientific cognition, is that the action thus based can be anything but an action aware of its cause. We are dealing with an action that sees itself having no other aims than those it abstractly ascribes to itself.

As a last resort, Marxist theory vindicates practice itself as the instance that renders the verification of hypotheses possible.[19] Unfortunately, the realization of this verification presupposes the previous realization of the action. This position implies by itself that there was no way of knowing if the theory was true or false in the very moment that the action was performed; that is, when cognition really matters. Likewise, this fact uncovers the vacuity of the attempt to overcome the impossibility of verification by alleging that scientific theories are not 'predictive' but 'explicative.'[20] Thus pushed beyond any hope, Marxist theory tries to conceal this fact attributing the potential of verification, not to each concrete singular practice but, to an abstract social practice. Theory is verified, we are told, in the historical development of the transformation of reality accomplished by society on its basis.[21] Of course, any other ideological representation, e.g. religion, can make the same claim in its favor.

Of the critical intention merely remains the assertion that, just as the restraints to theory apply to natural science, the limitation of social theory to cognize reality insofar as it exists as a potency will asymptotically reach its resolution under socialism.[22] Or, otherwise, it merely remains the assertion that the very necessity of scientific cognition concerning social forms will be extinguished in socialism, on representing the overcoming of alienated consciousness as the possibility of wholly cognizing these forms in an immediate way;[23] as if socialism were not the supersession of the form of social organization which, in turn, has precisely emerged from the insufficiency of immediate cognition to carry out that organization. Thus, in both cases, the alleged critique even surpasses the modern successors of positivism when the time comes to elude the questions that today emerge in concrete practice from the non-verifiability of theories, by presenting these questions as matters of pure scholasticism.

In a nutshell, the point is that scientific theories cannot go beyond interpreting reality in different ways.[24] They are but ideologies. However powerful an action based upon a theory may be in its mission to transform reality, it is in itself the denial of the action which thoroughly cognizes its own necessity beyond any appearance, insofar as it is based upon an interpretation. No wonder theoreticians themselves end up condemning scientific knowledge, as a consequence of its logical method itself, to the field of 'exhausted utopias', of 'emancipating grand narratives;'[25] or, worse, to the field of the attempts of 'totalitarian domination,' aimed at oppressing human freedom.[26] This happens to the extent that the belief

[18] Wolff, Richard and Resnik, Stephen *Economics: Marxian versus Neoclassical* Baltimore: The Johns Hopkins University Press, 1987.

[19] Carchedi, Guglielmo *Class Analysis and Social Research* Oxford: Basil Blackwell, 1987. Negri, Antonio *Marx Beyond Marx: Lessons on the 'Grundrisse'* Massachusetts: Bergin and Garvy, 1984.. Thompson, E. P. 'The Poverty of Theory' *The Poverty of Theory & Other Essays* London: Merlin Press, 1981.

[20] Bhaskar, Roy *Reclaiming ..., op. cit.*.

[21] Habermas, Jürgen 'Teoría ..., *op. cit.*.

[22] Gramsci, Antonio *Quaderni ..., op. cit.*.

[23] Cohen, Gerald *Karl Marx's Theory of History: A Defense* Oxford: Clarendon, 1978.

[24] Habermas, Jürgen, "Teoría analítica de la ciencia y la dialéctica" in Popper, Karl, Theodor Adorno, Ralf Dahrendorf y Jürgen Habermas, op. cit., p. 86.

[25] Lyotard, Jean-François, *La condición postmoderna*, Editorial REI, Buenos Aires, 1989, pp. 73 y 76-77.

[26] Durand, Jean Pierre, "Can we make our own history? The significance of dialectic today", *Capital & Class*, 62, 1997, pp. 143-158.

that the ideological determination of all scientific cognition must be taken for granted currently passes for the most unquestionable historically conscious criticism of its present general form.[27]

The contradiction is obvious. Any interpretation of a real determination is in itself the denial of the knowledge of that determination that has transcended every appearance; the interpretation of one's own need is the denial of its complete objective cognition. But the general conscious organization of social life entails that the objective knowledge held by each of the members of society about his/her determinations as such, transcending every appearance, becomes the general social relation. Therefore, as much as scientific cognition is condemned to interpretation, so the general conscious organization of social life is condemned to impossibility. In other words, as much as scientific theory is the final form of scientific cognition, so socialism/communism is condemned to impossibility. Even the most blatantly apologetic cretinism of capitalism has nothing further to request: from the mouths of the true representatives of scientific method comes the utterance that this very same method declares that 'the end of history' has been reached, that 'the future is already here.'

In addition, as scientific knowledge has been reduced to an ideological conception whose specificity lies in its repressive and authoritarian power, antiscientific irrationality and fragmented sight begin to earn praise as the liberating resistance that 'desire' opposes to oppressing knowledge[28]. Theoretical representation opposes the very denial of totally free action -i.e., the free interpretation of reality[29]- to the transforming power of totally free action –i.e., of the action that is aware of its own determinations beyond any appearance- as the consummation of human freedom. In scientific theory, ideology manifests itself in the form of its opposite, namely, scientific method.

The reproduction of the concrete in thought, i.e. dialectical cognition

The critique of scientific theory has no way of taking shape in the formulation of a new logical paradigm. In other words, the critique of the current universally dominant science does not take shape in the construction of a new theory, but in the production of a new form of objective cognition that supersedes scientific theory itself. Thus, it is not about conceiving a new representation of reality, condemned by its sole condition as a form of representation to follow a constructive necessity alien to the real one, to follow a logic.

What is to be done then? There is only one step possible: we must face the issue itself of 'what is it to be done' in a radical way; that is to say, we must start by submitting to criticism the determinations of our own transforming action from its very roots, from the determination of our social being, putting everything into question.

The production of the scientific consciousness of the working class concerning its own historic potential is not a mere scientific matter. It is a necessary specific moment of the political action of the working class within in class struggle. As long as the scientific consciousness of the working class remains the prisoner of the same method that operates as the scientific consciousness of the simple production of relative surplus value -namely, of logical representation- it lacks the capacity to uncover that, in the capitalist mode of production, freedom is the concrete form of alienation. Certainly, the working class makes its revolutionary advances based on this consciousness in the process of centralizing capital as a

[27] Adorno, Theodor, "Sobre la lógica de las ciencias sociales", en Popper, K, T. Adorno, R. Dahendorf, J. Habermas, op. cit., p. 42.

[28] Foucault, Michel, *La arqueología del saber: las ciencias humanas en la episteme moderna*, Siglo XXI, México,1997, p. 23.

[29] Rorty, Richard, *Philosophy and the Mirror of Nature*, Basil Blackwell, Oxford, 1980, p. 208.

direct social property. Moreover, insofar as this advance necessarily entails the advance in its liberation from the rule of the bourgeoisie, it appears to be the practical confirmation that the theories it uses to rule its action are the product of a purely free consciousness. Nevertheless, the same production of relative surplus value forces forward the continued development of conscious control on social labor. This drives the conscious action of the working class towards overcoming any limitation that could be imposed on that control by stopping short at an appearance. Sooner or later in this process, the working class finds out that it is impossible to continue advancing without uncovering its own free consciousness as the necessary concrete form of its alienation as an attribute of capital. It can only take this step by appropriating its own determination which it achieves by reproducing their necessity in thought. That is, when its action concerning the conscious organization of social labor needs to leave behind it the exteriority of logical representation to govern itself through the reproduction of the concrete in thought.

At the point when we intend to appropriate in thought the necessity of our action, we are faced with the object of this action as it actually is for us in that moment: something external. We therefore are faced with our object in its immediate exteriority. We overcome the appearance of this immediate exteriority as we advance through the abstract forms of our object. The analysis pertinent to scientific theory separates the abstract forms according to their degree of repetition, therefore stopping at their exteriority. On the contrary, the analysis that is going to support the reproduction of the real necessity in thought separates the concrete form that we face from the necessity that it carries within itself as the other-one whose realization determines it. That is to say, it takes shape by discovering the abstract form (and as such, a necessity to be realized) within its concrete form (and as such, a necessity already realized). Given this form, the analysis cannot cease until it reaches the real form that does not carry in itself an other-one from which its necessity arises, but which is, by itself and not by an other-self, the need to negate itself as abstract existence in order to affirm itself as concrete existence. That is to say, until we face matter simply as such.

The return towards the concrete forms following the analysis that has come to a halt in the externality of the abstract forms unavoidably takes shape in the addition of the non-repeating -and consequently previously excluded- forms to the representation. This process lacks any necessity to follow other than the purely constructive one dictated by its logic. Hence, the inevitable externality of its result with regard to the real necessity that the action aims to realize. On the contrary, the reproduction of reality in thought advances by following the development of the necessity that the simplest abstract form carries within itself. As soon as this abstract form realizes its necessity, i.e., it affirms itself as an abstract form, it negates itself as such an abstract form in order to affirm itself as a realized necessity, i.e., as a concrete form. But this concrete form immediately negates itself as such, by affirming itself as a form that carries in itself a necessity to be realized, i.e., as a new abstract form. Thus, we follow in thought our real object as it unfolds its development. This reproduction of the development of real necessity by means of thought is unable to get to its end before reaching a form whose necessity as a potent power takes our transforming action -determined as an action that has needed to follow this path all along in order to become a conscious action- as its necessary form of realizing itself. That is, the reproduction in question is unable to get to its end until our action can discover its own concrete form as a conscious action, i.e., can discover itself, as the necessary concrete form of the realization of the real potential at stake. Due to the form of its method the ideal reproduction of reality is determined as dialectical cognition.

Science, i.e., the production of the objective consciousness, is thus carried out in a concrete form that immediately corresponds to its content: it has no room for necessities other than those purely inherent to its object. Therefore, when it is developed by the alienated

subject, it unavoidably faces the latter with the evidence of his/her own alienation, whichever the appearance of abstract free subjectivity he/she has started from. Hence, the development of scientific cognition as the way of governing the transformation of present society into that of freely associated individuals is the critique of scientific theory.

The science of capital as the pure form of annihilating itself, namely, the science of the working class

The apparent separation between cognition and practice stems from the nature of the historical stage of humanity's development in which the regulation of the process of social metabolism by means of thought - the specifically human regulation of the process of social metabolism - is alienated, turning itself into a concrete form of the autonomous regulation of this process by the production of value. Only in this historical stage can scientific cognition appear denying its true immediate condition as the necessary form taken by the regulation of conscious action. Moreover, scientific cognition can even appear as the very denying of action, as its abstract opposite, in other words, as theoretical cognition. In the very form of its method, that is, as *dialectical cognition*, the reproduction of one's own necessity by means of one's thought immediately shows itself excluding all appearance of externality in relation to the action that it sustains. It shows itself, therefore, as what it is: the regulation of such action, that is to say, a specific portion of this action and, consequently, this action itself. Scientific research thus overcomes all appearance of being the abstract opposite of practice, to affirm itself as *practical criticism*.

Since it begins, unavoidably, by discovering its own historical condition as an alienated consciousness, dialectical consciousness can only be a product of capital inasmuch as the latter needs to annihilate itself through the conscious general organization of the social metabolism. Therefore, dialectical cognition as practical criticism can only arise as the immediate expression of the general interests of the working class; namely, as the expression of the latter's power to abolish itself as a class by constituting the society of freely associated individuals. Only inasmuch as it expresses this necessity is dialectical cognition able to advance upon the immediate concrete forms of the political organization of privately-performed social labor and of the transformation of natural forces into human instruments. Nevertheless, when it does so, it brings to these fields the revolutionary powers it obtains from its very historical reason of existence.

Given its primary determination, the production of dialectical consciousness initially has to take the form of a political action of the working class immediately aimed at this self-same production. Hence -from the viewpoint of capital ideologists, obliged to conceive of any form of scientific production as a process of logical representation- the production of dialectical consciousness seems to begin as a process of abstract theoretical production. Nevertheless, dialectical consciousness can only count on a single object in order to advance, even to take the first step in its development, namely, the action of the working class in its struggle against the capitalist class in order to express the immediate necessities of social capital. Therefore, the concrete object from which the development of dialectical consciousness must needs start in order to produce itself, makes this same immediate end inseparable from the true end of dialectical consciousness in present-day society: the general conscious organization of the action of the working class in the class struggle through which the capitalist mode of production annihilates itself in its own development. Far from being an abstract theoretical production, the production of dialectical consciousness, i.e., the conscious organization of one's action by reproducing its necessity in thought, is always, given the unity of its form and content, a product of the concrete political practices of the working class.

As a concrete form of the general social relation, the conscious organization of social life performed by dialectical cognition is necessarily a task for the collective laborer who is politically delimited by the advance in the transformation of his/her environment into a means for him/herself based on this same organization. This collective laborer only affirms him/herself in his/her unity as such with respect to the process of knowledge as long as all of those members in the collective process reproduce the whole of the necessity of each one's share in the collective action that, as such a member, he/she is going to perform. Consequently, there is no way for the collective laborer to include within itself the separation between the organization and the fulfillment -in a restricted sense- of each action; in other words, there is no way for the collective laborer to include within itself the separation between the knowledge of the necessity of the action and the execution of the action itself. In brief, the action governed by the form of dialectical cognition is the actual abolition of the separation between intellectual labor and manual labor.

Today, the action governed by dialectical cognition is a necessary concrete form of capital. In turn, capital is the very denial of the consciously organized process of social metabolism. Nevertheless, because of its mere objective form, dialectical cognition embodies, as its own necessity, that same necessity inherent in the process of consciously organized social metabolism: the necessity of being the product of freely associated individuals. Though, in the capitalist mode of production, individuals lack any way to become actually free other than by having an alienated consciousness that negates its own alienation; i.e., as the negation of the negation of their freedom. Even as the form of dialectical cognition necessarily determines the social subject able to develop it as an alienated subject which, due to its awareness of its own alienation is therefore free, this cognition makes evident that it is only a power of capital insofar as it bears its own annihilation through the development of the material conditions for the general conscious organization of society as a historical necessity. Only because it is thus determined by its specific form of reproduction in thought of reality as a class product, as the science of the working class, does scientific cognition free itself from any ideological determination.

Marx's advance towards conscious revolutionary action

Marx's *Capital* is in itself the development -performed for the first time and objectified in a way that enables its social reproduction- of the alienated consciousness of the working class that produces itself as an alienated consciousness aware of its own alienation and of the historical powers it derives from it. In *Capital*, this consciousness develops to the point where it reaches its general determinations concerning the revolutionary action of the working class in which the historical powers in question realize themselves, thus producing the material conditions for the conscious -therefore, free- organization of social life.

From Marx on, any process of cognition of this kind concerning social forms over which we need to act in a revolutionary manner is, in what is thus determined as its general part, a recognition process from the social point of view. Still, we can very well say that it is not about *reading Capital*; nor even about *studying* it. The point is to face capital's real forms by ourselves to ideally reproduce them, with the potency we acquire by having at our disposition their ideal reproduction developed in *Capital*. Actually, the development by oneself of this task is the only critical way to recognize the original specificity of Marx's procedure concerning scientific method. Any other way implies an attempt to unfold the real necessity that is present here in a mode external to it; therefore, it implies to represent this necessity.

While he develops the ideal reproduction of capital's necessity, Marx stresses the specificity of the method he has discovered, in his well known remarks on scientific procedure. For instance:

> It is, in fact, much easier to find by analysis the earthly core of religious mistiness than, conversely, from the real relations of life at each moment, to develop their celestial forms. The latter is the only materialistic and, therefore, scientific method.[30]

Of course, Marx's most famous comment on the matter is the so frequently quoted one where he directly describes the research method and defines its result as the reproduction of reality in thought:

> The concrete is concrete because it is the synthesis of multiple determinations, therefore, the unity of diversity. It appears in thought then, as a process of synthesis, as a result, not as a point of departure, although it is the true point of departure, and, therefore, as well, the point of departure of intuition and of representation. In the first path [the analysis], the sheer representation was condensed to abstract determination; in the second one, abstract determinations lead to the reproduction of the concrete by the path of thought.[31]

Nevertheless, Marx does not get to develop the specific difference between this scientific cognition that ideally reproduces the real necessity and theoretical cognition, that only represents it. In other words, he does not get to face this ideal reproduction as the critique - the supersession - of scientific theory itself. This happens to the extent that he refers to his own scientific works and discoveries as being of a theoretical nature. Certainly, in Marx's time scientific theory had not yet got to unfold its ideological determination as an apologetics of capitalism, no longer for its potency but, for its lack of potency to transform nature in full cognition of cause; that is to say, scientific theory did not yet need to boast about its own limits to consecrate the impossibility of the conscious regulation of social life. Marx was then able to advance for the first time in the ideal reproduction of the real forms of capitalist society until discovering its historical character, without confronting the necessity of making explicit the specific difference between that reproduction and theoretical representation, inasmuch as this difference embodies in the form itself of one and the other cognition process. Still, the sole materialization of this advance violently pushes scientific theory towards the exhaustion of its capacity for self-criticism in the complacency with respect to its own impotence. Today, the organization of the conscious revolutionary action of the working class immediately presents the form of the critique of scientific theory.

What does Marxism have to say about the specificity of the method discovered by Marx? We can hardly find a more expressive synthesis than Lenin's non less widely quoted assertion 'If Marx did not leave behind him a "Logic" (with a capital letter), he did leave the *logic* of *Capital*.'[32]

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[30] Marx, Karl, *Das Kapital*, Band I, Ullstein Verlag, Frankfurt, 1980, author's translation.

[31] Marx, Karl 'Einleitung [zu der "Grundrissen der Kritik der politischen Ökonomie"]' *Marx/Engels Ausgewählte Werke*, Vol. II Berlin: Dietz Verlag, 1985, author's translation.

[32] Lenin, V. I. 'Philosophical Notebooks' *Collected Works* vol. 38 Moscow: Foreign Languages Publishing House, 1961.

Let us briefly unfold the point once more. Reality, matter, has the self-affirming by means of self-negation - the necessity of self-determining, contradiction - as its general form. Hence, each natural concrete form (and therefore, each natural form specifically developed as a social one) is the realized necessity of its abstract forms in their becoming, from the simplest one (matter as such), to one that negates itself as such concrete form (realized necessity) affirming itself as a potency (a necessity to be realized). Cognition is the way in which a subject regulates the realization of its own potency as the necessary concrete form of realizing a potency inherent in its environment, by appropriating these two potencies in their virtuality as purely such potencies. The subject of the cognition by means of ideas always starts by facing its object as something external to itself as such subject. Under its simplest form, this cognition reaches the necessity of the subject's own action just insofar as this one virtually manifests itself to the subject's mind as an immediate link between the mutual necessity of the subject and the object. Consequently, such form of cognition does not go beyond the very exteriority of the subject and of its object. It is determined, thus, as *immediate* ideal cognition. This cognition develops into cognition by means of thought when the subject goes beyond the immediate concrete forms to discover their necessity as realizations of their abstract forms. Nevertheless, on performing this advance, the subject comes up, first of all, against the exteriority of the abstract forms themselves; that is to say, the subject starts by ideally facing the abstract forms in what these forms have of realized necessity, under their appearance as purely concrete forms. From which, the appropriation of a real necessity in thought takes its most primitive specific form by ideally placing by itself in a causal relation the real forms (abstract and concrete ones) starting from the way they present themselves to it; that is, by mentally conceiving links among the real forms on the basis of their exteriority; and, therefore, independently from their necessity. Cognition becomes a mental construction that follows a causality alien to the real one: the ideal *representation* of reality. Logic is the scientific general form of this mental necessity. The appropriation in thought of the real forms in their virtuality transcends the exteriority of these forms by ideally accompanying them in the unfolding of their real necessity. In this way, scientific cognition mentally reproduces their real concatenations, thus taking the form of an ideal *reproduction* of reality. This cognition has no way of proceeding other than by making each real concrete form account for the necessity that it carries in itself as an already realized one, and each abstract real form, for the development of the necessity to be realized which it is.

Reality simply is the self-affirming by means of self-negation. Dialectical cognition, *dialectics*, is the method for virtually appropriating this contradiction that reality is, by following its development with our thought. Seen the other way round, dialectics does not belong in reality but in human cognition of reality; or, rather, it belongs in reality, in matter, in what this one takes its specific form of human cognition. This same condition applies to logic. Still, while the former can only take shape following the development of the necessity of a concrete real form, the latter necessarily has to take an autonomous incarnation as a condition for representing any concrete real form. Hence, any attempt to call the ideal reproduction of reality a logic, even runs into a formal impossibility: the absence of an independent body of ideal relations able to receive such a name. To pretend that logic remains effective in the ideal reproduction of reality, it is necessary to abstract it from its formal and historical determinations, turning it into a pure abstraction.

The certainty about the need of a logic to appropriate reality in thought inevitably implies that the real forms are taken as if they were incapable of being the realization of their own necessity, as if life were to be insufflated to them by the cognition process itself. Representations, whether on an idealist or a materialist basis, cannot avoid carrying in themselves this appearance. Let us look at it a little closer. To assert the need of a logical necessity to apprehend in thought any real form means, by itself, to assert that this real form

has no necessity of its own to be mentally followed: being there a real necessity, why should we appeal to a mental one instead of just following it through its development, with our thought? Hence, real forms appear as being unable to relate, to move, by themselves at the beginning of the representation process. But they emerge from this process overflowing with relations. Hegel just sticks to this appearance up to its end. He gives logic as its content, that is, as the content of the abstractly ideal necessity, the general form of the development in thought of the real necessity, placed not as the ideal reproduction of matter but as the development of the real necessity itself. Dialectics is thus inverted, appearing as the development of the Idea placed as the real subject that engenders matter. On doing so, Hegel pushed representation beyond its limits. The real necessity was laid there with its strength unchained, ready to be called into action. Naturally, standing dialectics on its feet after such inversion has nothing to do with entering 'matter' where Hegel writes 'idea' and vice versa.

Marx gives a first step in putting dialectics right side up by opposing to the claim of generality of Hegel's logic concept, 'the peculiar logic of the peculiar object'[33]. 'The peculiar logic of the peculiar object' already excludes by itself the possibility for logic to take a general body as the ideal necessity that cognition must follow and, therefore, its possibility to exist by itself. And what can the 'the peculiar logic of the peculiar object' be, but the reflection in thought of the development of the real object's own specific necessity? Nevertheless, Marx still has not completely developed here the distinction between the ideally produced necessity, the logic, that is, the discursive reason, that takes the place of the real causality in the representation and this real causality itself. It happens that Marx has not gone yet beyond the boundaries of philosophy; so much so, that he still identifies the abolition of the proletariat with the realization of philosophy[34]. But, immediately after in the same year, 1844, Marx faces for the first time the economic determinations of capital as the alienated general social relation of present-day humanity. On doing it, he discovers for the first time in history the real necessity of philosophy as a concrete form of alienated consciousness and how Hegel has developed it to its end. Consequently, Marx does no longer criticizes logic for being a general ideal necessity that displaces a peculiar ideal necessity. He criticizes logic for being an ideal necessity itself that displaces the real necessity that has to be followed in thought to rule one's conscious transforming action. That is, he criticizes logic for its very essence as a discursive reason that represents the real reason in thought, as the necessary form in which alienated thought takes shape:

> In turn, the philosophical spirit is nothing but the alienated spirit of the world that thinks inside its self-alienation, that is, that captures itself in an abstract way. *Logic* [the pure *speculative thought*] is the *money* of spirit, the speculative, the *thought-out value*, of man and of nature; its essence that has become completely indifferent to any real determination and which is, therefore, unreal; it is the alienated thought that hence abstracts from nature and the real man; the *abstract* thought.[35]

A little later, in 1847, Marx develops the specific critique of dialectical logic, showing step by step how this 'absolute method' starts from categories (that is, from the ideal

[33] Marx, Karl 'Kritik des Hegelschen Staatsrechts"' *Marx/Engels Werke* Band II, Berlin: Dietz Verlag, 1965.

[34] Marx, Karl 'Crítica de "La filosofía del derecho" de Hegel. Introducción' *Obras fundamentales de Marx y Engels* Vol. I, México: Fondo de Cultura Económica, 1982 ('Critique of Hegel's Philosophy of Right. Introduction').

[35] Marx, Karl 'Pariser Manuskripte 1844' *Texte zu Methode und Praxis*, II, Munich: Rowohlts Klassiker, 1966.

representation of the real forms) and unavoidably ends up by representing itself as the one who engenders the real forms (Hegel) or by succumbing to its own contradictions (Proudhon)[36].

Hegel's inversion is embodied in the form itself of the process of cognition; it is embodied in the conception of this process as a logical one. In fact, to proclaim logic as an inescapable condition for scientific cognition is nothing but to consecrate the idealist inversion, that prioritizes a mental necessity over matter's necessity. To say it once more, the question is not to give rise to a new logic, but to free science from it. Precisely what Marx has done. The claim for a logic in *Capital* is a contradiction in terms. This is something that Marx himself remarks in his comments on Wagner[37]. And, by the way, for the same reason there is not a single invocation in Marx to a dialectical logic, nor to a logic in general, there is not to dialectical materialism, to historical materialism or to other such *categories* either, that can only be used to *conceive* the real materiality and the real history as the corresponding abstractions.

Nevertheless, according to Marxism everything comes down to inverting dialectics again just by turning into a common place the representation of its development accomplished by Marx as its opposite, as if it were the development of a *dialectical logic*.

Engels points out how Marx made clear he was not a Marxist.[38] Considering what they call themselves, we must assume that Marxists can only see in Marx's assertion an expression of insincere modesty, or of his sense of humor, as Althusser wants to.[39] It happens that, opposite to Marx, *they really are* Marxists. As its very name shows, *Marxism* is the conception of the *reproduction* in thought of the specificity of present-day society - originally developed by Marx - as a *representation* of this specificity; and, hence, the representation of dialectical cognition as a *conception of the world*, as *a system of thought*. In brief, it is the degradation of the integral cognition of one's own necessity to *an interpretation* of reality and, therefore, to an *ideology*. The stage is reached where the point is turned into interpreting the world by interpreting Marx in different ways. It is not surprising then, that even though Marxism is always willing to point out the historical nature of capitalism and its concrete forms, the idea that scientific theory is one of these never crosses its mind. It is unable to recognize that, as it is a form of consciousness, scientific method is a social relation and, as such, a historically specific form. As we have already seen, it happens that in scientific theory, ideology takes the form of its opposite, of scientific method.

Thus, like any other scientific theory about present-day social forms, Marxism shows its own necessity insofar as a concrete form of alienated consciousness by representing itself as the abstract negation of alienated consciousness, as an abstractly free consciousness. But here it is where dialectic materialist logic shows the *raison d'être* for its specificity, for representing the simplest real determination, the self-affirming through self-negation, as the unity of two immediate affirmations mutually opposed and, therefore, for representing the existence of the concrete forms as abstractly opposed to their own determination. Marxism does not represent itself just as an abstract free consciousness, but, by invoking dialectical logic, it represents itself as the abstract free consciousness placed by itself as the opposite pole of the consciousness alienated in capital. Marxism does not see itself as being the opposite of alienated consciousness for recognizing itself as a form of existence of capital; on the contrary, it sees itself as the absolute realized negation of capital, as a social form whose necessity is external to capital. From this point of view, capital's historically immanent

[36] Marx, Karl *The Poverty of Philosophy* New York: International Publishers, 1963.
[37] Marx, Karl 'Notes on Adolph Wagner' *Karl Marx: Texts on Method* Oxford: Basil Blackwell, 1975.
[38] Letters to E. Bernstein dated 2-3/11/1882 and to C. Schmidt dated 5/8/1890.
[39] Althusser, Louis, *La filosofía como arma de la revolución*, Cuadernos de Pasado y Presente 4, Córdoba, 1972.

necessity of annihilating itself in its own development, that determines the working class as the necessary personification of this annihilation, comes down to an action external to that development itself. And, consequently, the performer of this action comes down to an abstract opposite of capitalism that, at best, has its necessity related to this one's as its absolute realized negativity, to the working class that reacts in self-defense against capitalistic misery and oppression.

As a result, the revolutionary realization of socialism/communism does no longer appear as what it is, as the realization of the historical necessity of the general regulation of the present-day process of social metabolism (and therefore, as the ruling itself of this process in action), as the realization of the historically own necessity of today's general social relation. On the contrary, the working class' revolutionary action sees its necessity degraded to the realization of 'right', 'justice', or 'equality' as opposed to capitalist 'unnatural' injustice and exploitation;[40] to the realization of the 'dialectics of ethicity';[41] to the 'increase of an internal self-determination or self-morality';[42] to the fact that the mere antagonistic relationship that exists between the exploiters and the exploited in class struggle engenders an abstract accumulation of experience;[43] to the 'autonomy' achieved by class struggle with respect to its determination as the necessary concrete form of the socialization of private labor;[44] to the 'autonomy achieved by the working class' consciousness with respect to capital, be this -in relative terms- by means of the production of a revolutionary 'doctrine',[45] or by means of its 'self-valorization';[46] to the 'democratization' of capitalism through the apparent standoff between an abstractly free consciousness and an abstractly alienated consciousness by means of 'market socialism';[47] to the production of a working class consciousness able to develop itself by itself beyond the exhaustion of the development of productive forces;[48] to the need to avoid 'barbarism' vis-à-vis the mechanical impossibility of capital reproduction;[49] to the resistance of the laboring surplus population in its desperate struggle to survive. In brief, the working class' revolutionary action sees its necessity degraded to a collection of abstractions that cannot but ideologically reflect the alienation of human potencies as capital's potencies, but that are represented as being so naturally eternal that the society freed from all alienation could only be realized through them.

Opposite to this naturalization of an abstractly free consciousness, the point is the conscious organization of the revolutionary action of the working class through which capital realizes its necessity of annihilating itself into the general conscious organization of human

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[40] Bernstein, Eduard, *Evolutionary Socialism: A Criticism and Affirmation* (Spanish edition: *Socialismo teórico y socialismo práctico. Las premisas del socialismo y la misión de la social democracia*, Editorial Claridad, Buenos Aires, 1966). Laclau, Ernesto and Chantal Mouffe, *Hegemony and Socialist Strategy: Towards a Radical Democratic Politics*, Verso, London, 1985.

[41] Habermas, Jürgen, *Knowledge and Human Interests* (Spanish edition: *Conocimiento e interés*, Taurus Ediciones, Madrid, 1982)

[42] Mezaros, István, *Marx's Theory of Alienation*, Merlin Press, London, 1986.

[43] Lukács, Georg, *History and Class Consciousness* (Spanish edition: *Historia y conciencia de clase. Estudios de dialéctica marxista*, Editorial Grijalbo, México, 1969)

[44] Holloway, John, "The Great Bear: Post-Fordism and Class Struggle", Werner Bonefeld and John Holloway (eds) *Post-Fordism & Social Form: A Marxist Debate on the Post-Fordist State*, Macmillan, London, 1991.

[45] Althusser, Louis, *For Marx* (Spanish edition: *La revolución teórica de Marx*, Siglo XXI Editores, Buenos Aires, 1968)

[46] Negri, Antonio, *Marx au-delà de Marx*, Christian Bourgois Éditeur, Paris, 1979.

[47] Schweickart, David, *Against Capitalism*, Cambridge University Press, New York, 1993. Roemer, John, *A Future for Socialism*, Harvard University Press, Cambridge, MA, 1994.

[48] Trotsky, Leon, *The Transitional Programme for Socialist Revolution* (Spanish edition: *El Programa de Transición*, Ediciones Política Obrera, Tigre, s/f)

[49] Luxemburg, Rosa, *The Accumulation of Capital* (Spanish edition: *La acumulación de capital*, Editorial, Buenos Aires, 1968)

life. Therefore, the point is to produce an alienated consciousness that is aware of its own alienation or, in other words, to produce an alienated consciousness, indeed, but one that is only such insofar as it is the negation of the negation of free consciousness. The advance in the production of this consciousness is the concrete political task of the working class that expresses its general historical interests. Moreover, this production is, in itself, the process of the determination of the forms that correspond to the organization of the political party of the working class that directly bears the power of the capitalist mode of production to overcome itself.

As Marx shows, the point is not to interpret the world. The point is that the transformation of the world in question is the development of the conscious organization of the process of social metabolism, and, therefore, the supersession of interpretation itself. Above all, the scientific critique of scientific theory is the development of the organicity of the working class' revolutionary action.